Congruent and Similar Triangle Investigation

Activity Three

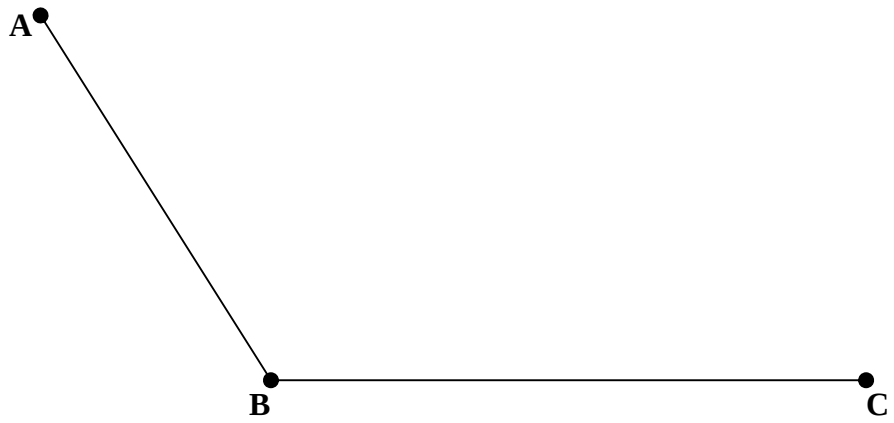
1. Using patty paper, copy the two segments and the included angle shown below. Draw segment AC using a straight edge.

2. What was the information that was given to you in order for you to create your triangle?

3. Compare your triangle to the other triangles in your group. What do you notice about your triangle compared to the others? Justify that this is true (can you use what you learned in Activity One?).

4. Locate the midpoint of $\overline{AB}$ and $\overline{BC}$ and label these points D and E, respectively. Draw segment DE. Is triangle ABC congruent to triangle DBE? Use mathematics to justify your answer.

5. Is triangle ABC similar to triangle DBE? Use mathematics to justify your answer.



Answers: The triangles were all created with the same lengths for two sides of the triangle and the same measure of the angle in between these sides. All of the triangles will be congruent because of the side-angle-side triangle congruence theorem. The two triangles, ΔABC and ΔDEB are not congruent because they have different side lengths. They are similar because the sides are proportional to one another and the angle measures are the same.